



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

A. G. Kawamura, Secretary

DATE: July 16, 2008

TO: All County Agricultural Commissioners

FROM: Plant Health and Pest Prevention Services

SUBJECT: **PHYTOSANITARY ADVISORY NO. 15-2008**
Approved Treatments for Light Brown Apple Moth (LBAM) in Nurseries

The California Department of Pesticide Regulation has approved the use of *All Seasons Commercial Horticultural & Dormant Spray Oil* (EPA #4-80-ZB) in commercial nurseries. With this approval, CDFA is able to approve the use of this product, in combination with an insecticide, as an **ovicidal** treatment (targeting eggs) for LBAM on nursery stock for propagation.

The attached table lists the currently approved products and specific instructions for the treatment of nursery stock found infested with LBAM. The user is required to follow all specifications and restrictions on the product label.

The information contained in this advisory does not pertain to cut flowers found infested with LBAM either in the field or during a per shipment inspection. Regulatory officials are currently developing inspection, treatment and certification protocols specifically designed for cut flowers. The protocols will be made available to all county agricultural commissioners as soon as possible. Prior to the availability of new protocols for cut flowers, county agricultural commissioners should contact the LBAM Project staff in Watsonville (831) 763-5960 to determine inspection and treatment protocols that will ensure cut flower shipments meet the requirements of the [Federal Order for Light Brown Apple Moth](#).

As per the [LBAM Regulatory Procedures Manual](#), treatment of the entire nursery (or all plants intended for movement within two weeks) is required when an adult female, larva, pupa or egg mass is confirmed. Nurseries may opt to treat using an approved ovicide or larvacide listed in the attached table. Other products not listed may also be considered.

Nursery stock undergoing **ovicidal treatment** can be released immediately upon re-inspection of treated material with negative findings.

Nursery stock undergoing **larvicidal treatment** must be held for ten days after treatment in an approved enclosure to ensure 1) adequate time for the hatching of any eggs that may be present and the exposure of young larvae to the insecticide and 2) no further oviposition occurs on treated plants during the 10 day holding period.

Additionally, the United States Department of Food and Agriculture, Center for Plant Health and Science Technology (CPHST) has recently recommended the following new restrictions when using Bt (*Bacillus thuringiensis*) as a larvicidal treatment:



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- Application must be at maximum label rate
- Treatments must occur after 12:00 p.m. to minimize UV exposure, unless under shade-cloth
- Treated nursery and host crop material must be safeguarded for 7-10 days
- Treatment must be re-applied after 7-10 days to ensure efficacy against newly-hatched larvae from untreated egg masses

If you have any questions regarding this advisory, please contact Melinda Mochel at (916) 654-0312 or by e-mail at mmochel@cdfa.ca.gov.

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Approved Treatments for Nurseries and Host Crops

Listed below are *examples* of approved products for control or prevention of Light Brown Apple Moth (LBAM) at nurseries and/or crop production areas. Establishments where a LBAM infestation has been detected must follow procedures outlined in the [LBAM Regulatory Procedures Manual](#).

It is incumbent upon the user to follow all label restrictions. Many active ingredients are in multiple products, each with specific site recommendations. If your crop or site does not appear, alternative products may be available for your situation. Search products based on multiple categories (site and chemical code) at: <http://www.cdpr.ca.gov/docs/label/m4.htm>.

Target Life Stage: Eggs/Larvae				
Active Ingredient	Product	EPA Reg. #	Sites	Remarks/ Restrictions
Chlorpyrifos with superior-type spray oil*	DuraGuard ME	499-367-ZA	Ornamentals	Apply at not less than 250ppm ai with superior-type spray oil rate of 1% by volume <i>See label</i>
	Dursban 4E	62719-11-AA	Ornamentals and crops	
	Dursban 50W	62719-72-ZA		
	Dursban Pro	62719-166-ZA		
	Chlorpyrifos Pro 2	51036-152-AA		
	Chlorpyrifos Pro 4	51036-154-AA		
Chlorpyrifos 4E AG	66222-19-AA, 51036-291-AA, 66330-278-AA			
Lambda-cyhalothrin with superior-type spray oil*	Scimitar GC	100-1088-AA	Ornamentals	Apply at maximum label rate of 148 ml/100 gallons water (38 ppm ai) with superior- type spray oil rate of 1% by volume <i>See label</i>
	Warrior with Zeon	100-1112-AA	Crops, Conifer/ Deciduous trees	
Spinosad (including spinosyn A and D) with superior-type spray oil*	Conserve SC	62719-291-AA	Ornamentals and crops	Apply at maximum label rate of 22 fl.oz/100 gallons water with superior-type spray oil rate of 1% by volume <i>See label</i>
	Entrust	62719-282-AA	Crops, Conifer trees	

***Superior-type spray oil is not approved as quarantine treatment targeting eggs when used alone.**

*Superior-type spray oil	Bonide All Seasons Commercial Horticultural and Dormant Spray Oil	4-80-ZB	Ornamentals and crops	Apply at label rate. Application rate less than the label rate is acceptable if not less than 1%. <i>See label</i>
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Target Life Stage: Larvae				
Active Ingredient	Product	EPA Reg. #	Sites	Remarks/ Restrictions
BT (<i>Bacillus thuringiensis</i>)	Crymax Lepinox Dipel Pro DF Dipel DF	70051-86-AA 70051-89-AA 73049-39-ZA 73049-39-AA	Ornamentals and crops	Application must be at maximum label rate; treatments must be after 12pm, unless under shade-cloth, to minimize UV exposure; re-apply after 7-10 days <i>See label</i>
Carbaryl	Sevin 4F	264- 349-ZB	Ornamentals and crops	<i>See label</i>
Chlorpyrifos	DuraGuard ME Dursban 4E Dursban 50W Dursban Pro Chlorpyrifos Pro 2 Chlorpyrifos Pro 4 Chlorpyrifos 4E AG	499-367-ZA 62719-11-AA 62719-72-ZA 62719-166-ZA 51036-152-AA 51036-154-AA 66222-19-AA, 51036-291-AA, 66330-278-AA	Ornamentals and crops Ornamentals and crops Crops	Apply at not less than 250ppm ai <i>See label</i>
Dimethoate 400	Dimethoate	34704-207-ZA	Ornamentals and crops	<i>See label</i>
Lambda-cyhalothrin	Scimitar GC Warrior with Zeon	100-1088-AA 100- 1112-AA	Ornamentals Crops, Conifer/ Deciduous trees	<i>See label</i>
Methoxyfenozide	Intrepid 2F	62719- 442-AA EPA 24(C) SLN CA-070016	Ornamentals and crops	<i>See label</i>
Phosmet	Imidan 70W Imidan 70 WP	10163-169-ZA 10163-169-AA	Ornamentals and crops	<i>See label</i>
Spinosad (including spinosyn A and D)	Conserve SC Entrust	62719-291-AA 62719-282-AA	Ornamentals and crops Crops, Conifer trees	<i>See label</i>
Tebufenozide	Confirm 2F	62719-420-ZB	Ornamentals and crops	<i>See label</i>

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Target Life Stage: Adults				
Active Ingredient	Product	EPA Reg. #	Sites	Remarks/ Restrictions
Carbaryl	Sevin 4F Sevin SL	264- 349-ZB 432-1227-ZA	Ornamentals and crops	See <i>label</i>
Chlorpyrifos	DuraGuard ME	499-367-ZA	Ornamentals	Apply at not less than 250ppm ai See <i>label</i>
	Dursban 4E	62719-11-AA	Ornamentals and crops	
	Dursban 50W	62719-72-ZA		
	Dursban Pro	62719-166-ZA		
	Chlorpyrifos Pro 2	51036-152-AA		
	Chlorpyrifos Pro 4	51036-154-AA		
	Chlorpyrifos 4E AG	66222-19-AA, 51036-291-AA, 66330-278-AA	Crops	
Deltamethrin	Suspend SC	432-763-ZB	Ornamentals	See <i>label</i>